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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/865,750	05/25/2001	Yuichi Shirota	4041J-000385	4254

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EXAMINER

CIRIC, LJILJANA V

ART UNIT PAPER NUMBER

3743

DATE MAILED: 01/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/865,750

Applicant(s)
Shirota et al.

Examiner
Ljiljana V. Ciric *LC*

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Oct 10, 2002
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above, claim(s) 2, 3, 6-13, 15, 17, 18, 21-28, and 30-38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4, 5, 14, 16, 19, 20, and 29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on May 25, 2001 is/are a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 4 6) ☐ Other:

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DETAILED ACTION

Election/Restriction

1. Applicant's election without traverse of the first species as illustrated in Figures 1 and 2 and drawn to claims 1, 4, 5, 14, 16, 19, 20, and 29 in Paper No. 7 is acknowledged.

2. Claims 2, 3, 6 through 13, 15, 17, 18, 21 through 28, and 30 through 38 are hereby withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to the non-elected second through eighteenth species, there being no allowable generic or linking claim.

Election was made without traverse in Paper No. 7.

Specification

3. The abstract of the disclosure is objected to because it is redundant instead of being concise (i.e., it mentions twice each the location of the cold accumulator relative to the cooling heat exchanger and relative to the air mixing door). Also, the abstract appears to focus more on the purported merits of the inventive apparatus than on its structure. Correction is required. See MPEP § 608.01(b).

4. 35 U.S.C. 112, first paragraph, requires the specification to be written in "full, clear, concise, and exact terms." The specification is replete with terms which are not clear, concise and exact. The specification should be revised carefully in order to comply with 35 U.S.C. 112, first paragraph. Examples of some unclear, inexact or verbose terms used in the specification are: "is suitably used for a vehicle temporarily stopping a vehicular engine used as a drive source of a

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compressor, at a time of a stoppage of the vehicle or the like" [page 1, lines 16-18]; "a vehicle...automatically stopping an engine thereof at a time of stoppage of the vehicle such as in waiting for a change of a traffic signal has been practically used, and hereafter, there is a tendency to increase the number of vehicles stopping a vehicle engine thereof at the stoppage of the vehicle" [page 1, lines 21-27]; "a cooling feeling of a passenger in the passenger compartment is damaged" [page 2, lines 10-11]; "pressure reducing *mean*" [page 12, line 4]; "a *close* refrigerant circuit" [page 12, lines 16-17]; and, "a *bypath* passage" [page 13, line 23].

Claim Rejections - 35 U.S.C. § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1, 4, 5, 14, 16, 19, 20, and 29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and contain grammatical and idiomatic errors.

For example, with regard to claim 1 as written, the limitations "a cold accumulator which is disposed between a downstream side of the cooling heat exchanger and an upstream side of the air mixing door *in the air flow direction to be cooled by cold air after passing through the cooling heat exchanger*" appearing at the end of the claim are not clear as written, thus rendering

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indefinite claim 1 and all claims depending therefrom. Claim 16 as written contains the same limitation and is similarly rendered indefinite thereby.

The limitations following "wherein" in each of claims 4, 14, 19, 19 are similarly unclear as written, thus further rendering indefinite these claims and all claims depending therefrom.

The above is an indicative, but not necessarily an exhaustive, list of 35 U.S.C. 112, second paragraph, problems. Applicant is therefore advised to carefully review all of the claims for additional problems. Correction is required of all of the 35 U.S.C. 112, second paragraph problems, whether or not these were particularly pointed out above.

Claim Rejections - 35 U.S.C. § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. As best can be understood in view of the indefiniteness of the claims, claims 1 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by *JP 1-153321 (of record)*.

As admitted by applicant on page 3 of the specification, *JP 1-153321* discloses a vehicular air conditioner essentially as claimed, including a cold accumulator 68 arranged in the air passage between a cooling heat exchanger 40 and a heating heat exchanger 28, the accumulator 68 being downstream of the cooling heat exchanger 40 and upstream of both of the heating heat exchanger 28 and the air mixing door 60.

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The reference thus reads on the claims.

Claim Rejections - 35 U.S.C. § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. As best can be understood in view of the indefiniteness of the claims, claims 1, 4, 5, 14, 19, 20, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Iritani* in view of *Kozinski*.

Iritani discloses a state-of-the-art vehicular air conditioning system, including a case 1, a cooling heat exchanger or evaporator 11 which is in turn part of a refrigerant cycle having a compressor 21 which is driven by an inverter 31, a heating heat exchanger or heater 12, an air mixing door 13, and a cold or suction accumulator 25. While *Iritani* does not disclose the cold accumulator 25 as necessarily being disposed in any particular location other than simply somewhere within the vehicle such that the accumulator 25 is operatively connected to the cooling heat exchanger 11, it is known in the art and taught by *Kozinski* [column 2, lines 51-67; column 3, lines 1-45; column 7, lines 34-57] to combine an evaporator and a suction accumulator into an integral unit whereby both the evaporator and the suction accumulator are designed to be disposed within the air passage of a vehicular air conditioning case upstream of the heating heat exchanger or heater and the associated bypass air mixing door in order to improve system

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performance while reducing overall cost. The combined evaporator/accumulator of *Kozinski*, as broadly interpreted as required, has a plurality of metallic stacked tubes defining a cold air passage therebetween, the tubes including a phase-change fluid material which is "sealed in" within the system in which the combined evaporator/accumulator is disposed.

It would thus have been obvious to modify the vehicular air conditioning system of *Iritani* by replacing both the evaporator or cooling heat exchanger 11 and the cold or suction accumulator 25 with an integral combined evaporator and suction accumulator as taught by *Kozinski* in order to improve the overall performance of the air conditioning system and reduce the manufacturing costs therefor.

As discussed in greater detail above, the instant invention is unpatentable over *Iritani* in view of *Kozinski*. While *Iritani* does disclose cooling heat exchanger 11 as being an evaporator of a refrigerant cycle having a compressor 21 which is driven by an inverter 31, *Iritani* does not necessarily specify that compressor as being driven by the engine of the vehicle where the engine is stopped when the

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. *Suzuki*, *Bartlett*, and *Chen* (filed October 1, 2001) disclose state-of-the-art vehicular air conditioning systems including cold accumulators. *Fukushima et al.* shows a vehicular air conditioner wherein the compressor of the associated refrigeration cycle is powered by the vehicle engine even when the automobile is being braked. *SU 1,740,952 A1*, *Chen et al.*, and *Hildebrand*

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et al. each discloses a state-of-the-art accumulator. *Fujiwara et al.* and *Voss et al.* each teaches having a combined evaporator and cold accumulator for a vehicular application.


12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ljiljana (Lil) V. Ciric, whose telephone number is (703) 308-3925. While she works a flexible schedule that varies from day to day and from week to week, Examiner Ciric may generally be reached at the Office during the work week between the hours of 10 a.m. and 6 p.m. ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennett, can be reached on (703) 308-0101. The fax phone number is (703) 305-3463.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0861.

lvc

December 27, 2002


LJILJANA V. CIRIC
PRIMARY EXAMINER
ART UNIT 3743

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December 30, 2002



LJILJANA V. CIRIC
PRIMARY EXAMINER
ART UNIT 3743